

REMARKS

Claims 1-9, 11-14 and 18, 19, 21 and 22 remain pending in the application.

No new issues are raised, nor is further search required, as a result of the changes made herein. The changes to the claims are primarily to overcome section 112 issues raised by the Examiner. It is respectfully requested that the amendment be entered.

Informal Objections to claims 8, 13, 21 and 22

Claims 8, 13, 21 and 22 were objected to because of noted informalities. All changes suggested by the Examiner with respect to claims 8, 13, 21 and 22 are implemented herein. It is therefore respectfully suggested that the objection be withdrawn.

Section 112, 2nd paragraph rejection of Claims 1-9, 11-14, 18, 19, 21 and 22

Claims 1-9, 11-14, 18, 19, 21 and 22 have been carefully reviewed, and are appropriately amended herein to be more definite. Claims 1-9, 11-14, 18, 19, 21 and 22 are now in full conformance with 35 USC 112. It is therefore respectfully requested that the rejection be withdrawn.

Claims 18, 19 and 22 over Harston

In the Office Action, claims 18, 19 and 22 were rejected under 35 U.S.C. §103(a) as allegedly being anticipated by U.S. Patent No. 5,343,196 to Harston ("Harston"). The Applicant respectfully traverses the rejection as follows.

Claims 18, 19 and 22 recite a pull-down mirror path and a transistor switch operating complementary to one another to ensure a constant current flow from a current source and to maintain a given current level produced by the current source.

The Examiner cites Fig. 3 of Harston as allegedly teaching "a method for reducing charge injection from a current source through a current

switch into a load", though the Examiner agrees that Harston fails to show or disclose reduction of charge injection. (Office Action at 5)

Harston discloses the use of two PMOS transistors MP2, MP3 for connecting the drain of MP1 either to the output line 24 or to AGND 26. (Harston, col. 2, lines 60-63) Even if the circuit of Harston were to have been understood by a person of ordinary skill in the art as the Examiner suggests, it still would not have taught the present invention. Only one of the two switches MP1, MP2 that the Examiner refers to source current for a load. That's MP2. The other switch MP3 shorts the circuit into analog ground AGND. Thus, Harston clearly fails to maintain a given current level produced by the current source. Instead, it nails the current draw to the upper rail by shorting it to ground.

If the circuit of Fig. 3 of Harston were to be used as the Examiner alleges, charge injection would be problematic due to switching between the current source being maximized in current draw when shorted to AGND through MP3, and then switching to the capacitive load including a 37.5 ohm resistance and 10 pF capacitance.

Not only does Harston not teach the present invention, Harston teaches away from the present invention.

In particular, Harston teaches in its Summary of the Invention that current draw is not to be wasted. Thus, Harston teaches that both switches to the current source will be OFF, so that no wasted current can be drawn from the current source.

According to the present invention, the current source remains substantially constant whether or not it is passing current through to a load. (Specification, page 8, lines 19-23). Harston teaches no such control of the current source, and in fact teaches away from drawing current into a mirror path as it would be wasteful of current.

Harston fails to teach or suggest the use of a pull-down mirror path and a transistor switch operating complementary to one another to ensure a constant current flow from a current source so as to maintain a given current level produced by the current source.

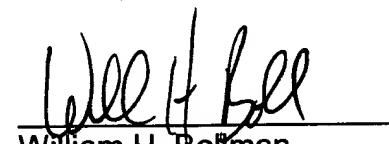
Accordingly, for at least all the above reasons, claims 18, 19 and 22

are patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

Conclusion

All rejections having been addressed, it is respectfully submitted that the subject application is in condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,



William H. Bollman
Reg. No. 36,457

Manelli Denison & Selter PLLC
2000 M Street, NW
Suite 700
Washington, DC 20036-3307
TEL. (202) 261-1020
FAX. (202) 887-0336